APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,807	09/19/2003	Dan Adamson	MS320514.02/MSFTP1836USA	6636

27195   7590   06/21/2007

AMIN. TUROCY & CALVIN, LLP
24TH FLOOR, NATIONAL CITY CENTER
1900 EAST NINTH STREET
CLEVELAND, OH 44114

EXAMINER
SHARON, AYAL I

ART UNIT	PAPER NUMBER
2123	

MAIL DATE	DELIVERY MODE
06/21/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/665,807	ADAMSON ET AL.
	Examiner	Art Unit	
	Ayal I. Sharon	2123	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _05 April 2007_.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-17_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-17_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _19 September 2003_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Introduction

1. Claims 1-17 of U.S. Application 10/665,807 filed on 09/19/2003 are currently

   pending.

2. The application claims benefit of U.S. Provisional Application 60/411,902 filed on

   09/19/2002.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

   form the basis for the rejections under this section made in this Office action:

   A person shall be entitled to a patent unless –

   (b) the invention was patented or described in a printed publication in this or a foreign country or in public
   use or on sale in this country, more than one year prior to the date of application for patent in the United
   States.

4. The prior art used for these rejections is as follows:

5. Molina, M. "Building a Decision Support System with a Knowledge Modeling

   Tool." Journal of Decision Systems. 2006.

   http://www.dia.fi.upm.es/grupos/I&K/06-building-decision-support.pdf. ("**Molina**").

6. While the publication date of the Molina reference post-dates the filing date of the

   instant application, it directly cites and summarizes publications that qualify as 35

   U.S.C § 102(b) art. The Molina reference is analogous to the reference cited in In

   re Epstein, 32 F.3d 1559, 31 USPQ2d 1817 (Fed. Cir. 1994) (Database printouts

of abstracts which were not themselves prior art publications were properly relied

as providing evidence that the software products referenced therein were "first

installed" or "released" more than one year prior to applicant's filing date.). See

MPEP § 2128 for more explanation.

7. The claim rejections are hereby summarized for Applicant's convenience. The

detailed rejections follow.

8. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Molina.

9. In regards to Claim 1, Molina teaches the following limitations:

> 1. (Currently Amended) A <u>computer-implemented method to process a document, comprising:</u>
> at least one document in a domain, the method including:
> analyzing features of a document; and
> <u>generating a set of domain models, as a function of the analyzed features, that represent the document.</u>

Molina expressly teaches (see pp.3-4):

> Simple tasks can be performed directly using declarative knowledge. This requires an ontological definition of such a declarative knowledge that is viewed as a set of *domain models* in form of types of knowledge bases that support primary tasks. This type of description based on tasks and methods was originally present in several proposals from different authors such as the *generic task* (Chandrasekaran 83, 86), the KADS model (Wielinga et al. 92), the model of components of expertise (Steels 90), the *role limiting method* (McDermott 88).

Molina therefore expressly shows that the "generating a set of domain models" was previously taught by Chandrasekaran '83 and '86, Wielinga et al. '92, and Steels '90, all of which were published several years before the filing date of the instant application, and that this is old and well known in the art.

Examiner further finds that the claimed utility of "analyzing features of a document" is a mere intended use of the claimed domain models.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. This application currently names joint inventors. In considering patentability of

the claims under 35 U.S.C. 103(a), the examiner presumes that the subject

matter of the various claims was commonly owned at the time any inventions

covered therein were made absent any evidence to the contrary. Applicant is

advised of the obligation under 37 CFR 1.56 to point out the inventor and

invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35

U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35

U.S.C. 103(a).

12. The prior art used for these rejections is as follows:

    a. Chandrasekaran, B. et al. "What Are Ontologies, and Why Do We Need

       Them?" IEEE Intelligent Systems. Jan/Feb. 1999. Vol.14, Issue 1, pp.20-

       26. ("**Chandrasekaran**").

    b. Knight, K. and S. Luk. "Building a Large-Scale Knowledge Base for

       Machine Translation." Proc. Am. Assoc. Artificial Intelligence, AAAI Press,

       Menlo Park, CA 1994. http://arxiv.org/PS_cache/cmp-

       lg/pdf/9407/9407029v1.pdf. ("**Knight**").

   c. Debnath, S. et al. "LawBot: A Multiagent Assistant for Legal Research."

      IEEE Internet Computing, Nov/Dec 2000, Vol.4, Issue 6, pp.32-37.

      ("**Debnath**").

13. The claim rejections are hereby summarized for Applicant's convenience. The

   detailed rejections follow.

14. **Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over**

   Chandrasekaran in view of Knight and further in view of Debnath.

15. In regards to Claim 1, Chandrasekaran teaches the following limitations:

> 1. (Currently Amended) A <u>computer-implemented method to process a document,</u>
> <u>comprising:</u> at least one document in a domain, the method including:
>
> analyzing features of a document; and
> <u>generating a set of domain models, as a function of the analyzed features,</u>

Chandrasekaran expressly teaches the use of ontological analysis, and creation

of domain models, for clarifying the structure of knowledge (see p.21, middle

column, "Why are ontologies important?", 1st paragraph). Chandrasekaran also

expressly teaches that there are many differences between varying ontologies,

domain models, and taxonomies (see p.22, middle column, and Fig.2). Moreover,

Chandrasekaran expressly teaches that a "domain-specific ontology" has been

used "for language understanding" (see p.24, 1st column, 1st paragraph).

      However, while Chandrasekaran expressly teaches that a "domain-

specific ontology" has been used "for language understanding" (see p.24, 1st

column, 1st paragraph), Chandrasekaran does not expressly teach its use for

"representing a document", as claimed in the following limitation:

> <u>that represent the document.</u>

Knight, on the other hand, expressly teaches that "Knowledge-based machine translation (KBMT) systems have achieved excellent results in constrained domains, but have not yet scaled up to newspaper text ... This paper focuses on the construction of a large ontology ... for supporting KBMT." (See Abstract). Examiner interprets Knight as teaching the creation of a Spanish-English lexicon data base for use in newspaper text translation.

Chandrasekaran and Knight are analogous art because they are from the same field of endeavor of ontology, and "knowledge based problem solving" (KBPS).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to implement the teachings of Chandrasekaran in the specific implementation (machine translation) taught by Knight.

The suggestion/motivation for combining the references would have been Chandrasekaran's explicit footnoting to the Knight article (see p.23, last line – p.24, first paragraph of Chandrasekaran).

Therefore, it would have been obvious to a person of ordinary skill in the art to modify Chandrasekaran with Knight to obtain the invention as specified in Claim 1.

Debnath, on the other hand, teaches the use of an "extensive ontology, or semantic net, that helps us build proper relations between words and phrases." (See p.35, "Ontology-Augmented Search", 1st paragraph). Debnath further teaches that "[t]hose relations can be used to reformulate a query if very few or

no results are returned by the initial search". (See p.35, "Ontology-Augmented

Search", 1st paragraph). Debnaths "relations" correspond to the claimed

"analyzed" features that represent the document.

Chandrasekaran, Knight, and Debnath are analogous art because they

are from the same field of endeavor of ontology, and "knowledge based problem

solving" (KBPS).

At the time of the invention, it would have been obvious to a person of

ordinary skill in the art to implement the teachings of Chandrasekaran, and

Knight's database, in the specific implementation (document search) taught by

Debnath.

The suggestion/motivation for combining the references would have been

Chandrasekaran's explicit footnoting to the Knight article (see p.23, last line –

p.24, first paragraph of Chandrasekaran), Knight's creation of an ontology /

semantic net, and Debnath's use of an ontology / semantic net for searching for

documents in a database.

Therefore, it would have been obvious to a person of ordinary skill in the

art to modify Chandrasekaran and Knight with Debnath to obtain the invention as

specified in Claim 1.

16. In regards to Claim 2,

> 2. (Currently Amended) The method of claim 1, wherein a domain model relates to
> a simple type, or a complex type, and:
> if a property for the a domain model is of the simple type, populating the domain model
> with a value according to the document being represented; and
> if a respective property type for the a domain model is of the complex type, selectively
> adding another domain model as the value for that property, according to the document
> being represented.

See pp.35-36 of Debnath. The motivation to combine Debnath with the

Chandrasekaran and Knight references is provided in the rejection of claim 1.

17. In regards to Claim 3,

> 3. (Currently Amended) The method of claim 1 further comprising
>   searching the set of domain models to determine a subset of features of the
> document that match which matches the search criteria.

See pp.35-36 of Debnath. The motivation to combine Debnath with the

Chandrasekaran and Knight references is provided in the rejection of claim 1.

18. In regards to Claim 4,

> 4. (Currently Amended) The method of claim 2, comprising:
> analyzing the set of domain models by determining values of properties from at least one
> model.

See pp.35-36 of Debnath. The motivation to combine Debnath with the

Chandrasekaran and Knight references is provided in the rejection of claim 1.

19. In regards to Claim 5,

> 5. (Currently Amended) The method of claim 1, comprising:
> describing the document as instances of the respective models of the set.

See pp.35-36 of Debnath. The motivation to combine Debnath with the

Chandrasekaran and Knight references is provided in the rejection of claim 1.

20. In regards to Claim 6,

> 6. (Currently Amended) The method of claim 1 comprising:
> setting values in at least one of the models that represent supplemental
> information not in the document but is associated to the document.

See pp.35-36 of Debnath. The motivation to combine Debnath with the

Chandrasekaran and Knight references is provided in the rejection of claim 1.

21. In regards to Claim 7,

> 7. (Currently Amended) The method of claim 2, comprising:

an automated process where a list of conditions must be met in the document to populate
a property with a value or set of values.

See pp.35-36 of Debnath. The motivation to combine Debnath with the

Chandrasekaran and Knight references is provided in the rejection of claim 1.

22. In regards to Claim 8,

8. (Currently Amended) The method of claim 1, wherein the analyzed features
of the document comprises keywords.

See pp.35-36 of Debnath. The motivation to combine Debnath with the

Chandrasekaran and Knight references is provided in the rejection of claim 1.

23. In regards to Claim 9,

9. (Currently Amended) A computer-implemented method to facilitate locating a
document, comprising:
        receiving a query related to locating the document; and
        searching across a plurality of domain models that respectively represent a
plurality of documents; and
        identifying a set of the domain models that match criteria of the receive query.

See pp.35-36 of Debnath. The motivation to combine Debnath with the

Chandrasekaran and Knight references is provided in the rejection of claim 1.

24. In regards to Claim 10,

10. (Currently Amended) A system to process at least one documents in a domain,
comprising:
means for modeling a domain with a plurality of domain models;

Chandrasekaran expressly teaches the use of ontological analysis, and creation

of domain models, for clarifying the structure of knowledge (see p.21, middle

column, "Why are ontologies important?", 1st paragraph). Chandrasekaran also

expressly teaches that there are many differences between varying ontologies,

domain models, and taxonomies (see p.22, middle column, and Fig.2). Moreover,

Chandrasekaran expressly teaches that a "domain-specific ontology" has been

used "for language understanding" (see p.24, 1st column, 1st paragraph).

However, while Chandrasekaran expressly teaches that a "domain-

specific ontology" has been used "for language understanding" (see p.24, 1st

column, 1st paragraph), Chandrasekaran does not expressly teach its use for

"representing a document", as claimed in the following limitation:

> means for populating the at least one domain model that with values corresponding to
> properties of <u>respective</u> documents being represented.

Chandrasekaran also does not expressly teach the use of "respective"

documents, which the Examiner interprets as a plurality of documents, as

claimed in the following limitation:

> means for representing <u>respective</u> documents as a collection of at least one domain
> model; and

Knight, on the other hand, expressly teaches that "Knowledge-based

machine translation (KBMT) systems have achieved excellent results in

constrained domains, but have not yet scaled up to newspaper text ... This paper

focuses on the construction of a large ontology ... for supporting KBMT." (See

Abstract). Examiner interprets Knight as teaching the creation of a Spanish-

English lexicon data base for use in newspaper text translation.

Chandrasekaran and Knight are analogous art because they are from the

same field of endeavor of ontology, and "knowledge based problem solving"

(KBPS).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to implement the teachings of Chandrasekaran in the specific implementation (machine translation) taught by Knight.

The suggestion/motivation for combining the references would have been Chandrasekaran's explicit footnoting to the Knight article (see p.23, last line – p.24, first paragraph of Chandrasekaran).

Therefore, it would have been obvious to a person of ordinary skill in the art to modify Chandrasekaran with Knight to obtain the invention as specified in Claim 1.

Debnath, on the other hand, teaches the use of an "extensive ontology, or semantic net, that helps us build proper relations between words and phrases." (See p.35, "Ontology-Augmented Search", 1st paragraph). Debnath further teaches that "[t]hose relations can be used to reformulate a query if very few or no results are returned by the initial search". (See p.35, "Ontology-Augmented Search", 1st paragraph). Debnaths "relations" correspond to the claimed "analyzed" features that represent the document.

Chandrasekaran, Knight, and Debnath are analogous art because they are from the same field of endeavor of ontology, and "knowledge based problem solving" (KBPS).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to implement the teachings of Chandrasekaran, and

Knight's database, in the specific implementation (document search) taught by

Debnath.

The suggestion/motivation for combining the references would have been

Chandrasekaran's explicit footnoting to the Knight article (see p.23, last line –

p.24, first paragraph of Chandrasekaran), Knight's creation of an ontology /

semantic net, and Debnath's use of an ontology / semantic net for searching for

documents in a database.

Therefore, it would have been obvious to a person of ordinary skill in the

art to modify Chandrasekaran with Knight and Debnath to obtain the invention as

specified in Claim 1.

25. In regards to Claim 11,

> 11. (Currently Amended) A machine readable medium storing a set of instructions that,
> when executed by a machine, cause the machine to:
> model a_domain with a plurality of domain models;
> represent a document as a collection of at least one domain model; and populate the at
> least one domain model with values corresponding to properties of the document being
> represented.

Claim 11 is rejected on the same grounds as claim 10.

26. In regards to Claim 12,

> 12. (New) The method of claim 1, wherein generating the domain models comprises
> structuring the domain models so as to be searchable by a querying system.

See pp.35-36 of Debnath. The motivation to combine Debnath with the

Chandrasekaran and Knight references is provided in the rejection of claim 1.

27. In regards to Claim 13,

> 13. (New) The method of claim 1, comprising representing portions of the documents with
> respective instances of a subset of the generated domain models.

See pp.35-36 of Debnath. The motivation to combine Debnath with the

Chandrasekaran and Knight references is provided in the rejection of claim 1.

28. In regards to Claim 14,

> 14.(New) The method of claim 13, wherein the respective instances are computation ready representations of the portions of the documents that can be understood by a plurality of computer applications.

See pp.35-36 of Debnath. The motivation to combine Debnath with the

Chandrasekaran and Knight references is provided in the rejection of claim 1.

29. In regards to Claim 15,

> 15. (New) The method of claim 1, wherein the generated domain models can be queried in connection with locating a collection of documents.

See pp.35-36 of Debnath. The motivation to combine Debnath with the

Chandrasekaran and Knight references is provided in the rejection of claim 1.

30. In regards to Claim 16,

> 16. (New) The method of claim 1, wherein a hierarchy of domain models are generated as a function of respective analyzed features.

See pp.35-36 of Debnath. The motivation to combine Debnath with the

Chandrasekaran and Knight references is provided in the rejection of claim 1.

31. In regards to Claim 17,

> 17. (New) The method of claim 9, comprising searching across the domain models in connection with locating a collection of documents.

See pp.35-36 of Debnath. The motivation to combine Debnath with the

Chandrasekaran and Knight references is provided in the rejection of claim 1.

Response to Amendment

Re: Claim Rejections - 35 USC § 101

32. In light of Applicants' amendments to claims 1-7, the 35 USC § 101 rejections

have been withdrawn. The method claims now produce a result that is tangible

(because it is implemented in a computer), and has utility (represents a

document).

Re: Claim Rejections - 35 USC § 112

33. In light of Applicants' amendments to claims 1-11, the 35 USC § 112 rejections

have been withdrawn. The references to "ontology" have been deleted, and the

phrase causing the antecedent basis problem in claim 8 has also been deleted.

Re: Claim Rejections - 35 USC § 102

34. In light of Applicants' arguments on pp.6-7 of the amendment filed 4/5/07, the 35

USC § 102 rejections have been withdrawn.

Conclusion

35. The following prior art, made of record and not relied upon, is considered

pertinent to applicant's disclosure.

36. U.S. PG-PUB 2003/0154071 to Shreve. (Paragraphs [0108] to [0109], and [0114]

discuss the use of a "corpus domain model" used in computer-assisted

translation of documents.

37. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Correspondence Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ayal I. Sharon whose telephone number is (571) 272-3714. The examiner can normally be reached on Monday through Thursday, and the first Friday of a bi-week, 8:30 am – 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Rodriguez can be reached at (571) 272-3753.

Any response to this office action should be faxed to (571) 273-8300, or
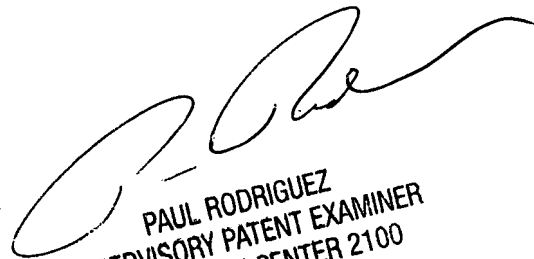
mailed to:

USPTO
P.O. Box 1450
Alexandria, VA 22313-1450

or hand carried to:

USPTO
Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry of a general nature or relating to the status of this application

or proceeding should be directed to the Tech Center 2100 Receptionist, whose

telephone number is (571) 272-2100.

Ayal I. Sharon
Art Unit 2123
June 17, 2007

PAUL RODRIGUEZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100